GOVERNMENT-SPONSORED ENTERPRISES AND THEIR IMPLICIT FEDERAL SUBSIDY:

THE CASE OF SALLIE MAE

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PREFACE

This report on the Student Loan Marketing Association (Sallie Mae) is part of an ongoing study of government-sponsored enterprises (GSEs). The Congressional Budget Office undertook the study at the request of the Senate Budget Committee and the Subcommittee on Federal Credit Programs of the Senate Banking Committee. Government-sponsored enterprises include, in addition to the Student Loan Marketing Association, the Federal National Mortgage Association, the Farm Credit Banks, the Federal Home Loan Mortgage Corporation, and the Federal Home Loan Banks. Although the emphasis in this report is on Sallie Mae, the analysis is applicable to the other sponsored enterprises. In keeping with CBO's mandate to provide objective analysis, the paper offers no recommendations.

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Rudolph G. Penner
Director

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SUMMARY

Government-sponsored enterprises (GSEs) are privately owned instrumentalities of the federal government, established and accorded favored regulatory treatment to increase capital market access by those sectors thought to be inadequately served by fully private lenders. Today, five GSEs, including the Student Loan Marketing Association (Sallie Mae), the Farm Credit System (FCS), the Federal Home Loan Banks (FHLBs), the Federal National Mortgage Association (Fannie Mae), and the Federal Home Loan Mortgage Corporation (Freddie Mac) are engaged in facilitating the flow of investment funds into higher education, agriculture, and housing. They do so largely by borrowing in "wholesale" financial markets and relending to "retail" suppliers of credit.

THE VALUE OF AGENCY STATUS

To understand the operation and fiscal significance of government-sponsored financial enterprises, two of their essential characteristics must be recognized. The first is the implied guarantee of their debt by the federal government. The second is the large measure of control they exercise over the value of this guarantee.

Established by Acts of Congress, governed by boards of directors appointed in part by the President of the United States, exempted from securities registration requirements, and granted a line of credit with the U.S. Treasury, the sponsored enterprises are so firmly linked to the federal government that their debt enjoys a preferred status in the financial markets, trading as "agency" securities. This preferred status provides considerable support to the credit standing of the sponsored enterprises and usually enables them to borrow at interest rates lower than those available to fully private firms. Unlike Treasury securities, however, GSE debt is not explicitly backed by the full faith and credit of the U.S. government, so that private investors cannot be entirely certain as to its guarantee. When a substantial number of investors feel uncertain over the security of their investment--as they did following the disclosure by two GSEs of large losses--the market cost of funds to these enterprises rises above the risk-free rate. Losses of investor confidence in the implicit federal guarantee

adversely affected the Federal National Mortgage Association in 1980-1981 and the Farm Credit System in the late summer of 1985. In both cases, changes in investor demand spilled over to the other agency securities and raised the cost of money to all the sponsored enterprises.

Operating Policies and the Implicit Guarantee

The value (and expected cost) of the government's implicit guarantee of "agency" debt depends largely on the operating policies adopted by the individual GSE. For fully private firms that are not sponsored by the government, the greater the risk of loss assumed by an enterprise, the higher its cost of borrowing money and raising capital. The implicit federal guarantee of GSE debt, however, weakens the relationship between the GSEs' cost of money and the risks assumed by them. The larger the gap between a GSE's actual cost of money and the cost it would be forced to pay if government was not seen as absorbing the risk of default, the greater the value of the guarantee. Thus, GSEs can increase the value of their close association with government by taking more risks and increasing the government's exposure to potential loss. Some GSEs have made use of this opportunity by adopting risky operating strategies. Others have taken advantage of their agency status during the start-up phase of their development but otherwise have operated as largely riskless enterprises.

The Student Loan Marketing Association is a prime example of a low-risk sponsored enterprise. Though Sallie Mae effectively links the capital markets with lenders operating under the Guaranteed Student Loan Program, it has managed to avoid most of the risks that afflict many financial intermediaries. Sallie Mae carries out its mission by selling its debt to investors and by using the proceeds to purchase Guaranteed Student Loans (GSLs) from banks, savings and loans, state education loan agencies, and educational institutions, and to make loans to these institutions. Its loans, known as warehousing advances, are fully secured by pledged government-issued or government-guaranteed collateral. Sallie Mae therefore holds a portfolio of assets virtually free of default risk. And because Sallie Mae's management has succeeded in tying the cost of its debt to the yield on GSLs, it has shed or hedged its interest rate risk.

Sallie Mae's Profitability

Although it takes few risks, Sallie Mae is an unusually profitable enterprise. The profits stem from the subsidies conferred on all holders of student loans

by the GSL program, from the firm's ability to control operating expenses, and from the especially low cost of borrowing that GSE status confers. For the past four years, annual after-tax returns to the book value of its common equity exceeded 25 percent. The pretax spread earned on GSL holdings is more than 200 basis points (two percentage points). As the lowest-cost student loan intermediary, Sallie Mae could profitably finance GSLs at lower yields and in the process squeeze out other intermediaries. Although it has not used its low-cost advantage to monopolize the GSL market, the Association does appear to act as a market leader and its low cost of money appears to function as a barrier to vigorous price competition in the secondary market for student loans.

From a budgetary point of view, the source of Sallie Mae's low cost is important. If the low cost of financing results from a grant of scarce resources--including risk-bearing services--by the the federal government, then the value of those resources should be taken into account when budgetary decisions are made. This paper finds that Sallie Mae has received an unrecognized and unbudgeted subsidy consisting of a reduced cost of funding for which Sallie Mae would not have qualified--especially during its early years--without an implied government guarantee of its debt. Although it has operated as a low-risk enterprise in recent years, its acquisition of a savings and loan association, for example, raises the question of whether Sallie Mae might attempt to increase the advantages of its GSE status in the future. More generally, the existence of the implicit guarantee of GSE debt presents government with a need to circumscribe more effectively the risk-taking behavior of the enterprises it has created.

ALTERNATIVES FOR PUBLIC POLICY

The implicit guarantee of agency debt by the federal government, inherent in the GSE approach to capital market access, has several weaknesses from the standpoint of public policy. These include: a lack of budgetary recognition that something valuable is conveyed by agency status; uncertainty over whether government will honor the implicit guarantee; the anticompetitive effects of subsidizing a firm rather than an activity; the increased but obscured role of the federal government in the credit markets; and the discretionary latitude of GSEs to increase taxpayers' risk exposure.

A more direct appoach to capital market access would be to make the government's guarantee explicit. If the government intends--as the market has often inferred--to protect investors in GSE debt from loss in order to

assure a low cost of funds to GSEs, an explicit guarantee would convey the intent without ambiguity. In addition, a declaration of "full faith and credit" backing would stabilize the cost of money to GSEs at the minimum, risk-free rate.

Explicit recognition of the government's contingent liability for GSE debt would also force attention to risk management and control. Strategies for controlling the risks assumed for taxpayers by GSEs include regulation, government ownership, or full privatization.

Regulation

GSEs could be required to operate without assuming risk. By requiring the shedding of risks through the use of hedges and insurance, government could reduce its own risk exposure. Since Sallie Mae has for the most part shed risks, the consequences of such a restriction would be relatively minor. It might, however, thwart Sallie Mae's plans to operate a savings and loan association, to develop an unguaranteed student loan instrument, and to provide new, education-related financial services--including the financing of facilities construction. In the cases of higher-risk GSEs, it might require significant operating changes and years of adjustment. An alternative would be to require risk-shedding for newly acquired assets. In practice, the design and enforcement of rules to reduce and eliminate risk-taking by GSEs might prove to be impractical, because the riskiness of a particular activity may depend on attributes such as management capability that are difficult to measure.

Nationalization

As an alternative, GSEs could be converted into government-owned and -operated agencies by direct purchase. While this option could reduce intermediation costs, in that it would permit direct Treasury financing and give government direct control over risks assumed by these entities, some of the current management efficiencies achieved by GSEs would probably be lost. Moreover, control authority does not always result in effective control. Many direct loan programs operated by government agencies are--often intentionally--more risky than those carried on by privately owned and sponsored enterprises. In addition, it would be costly to acquire such a profitable enterprise as Sallie Mae from its present owners.

Privatization

Another alternative would be to convert the GSEs to fully private entities. Through legislation, the Congress could explicitly guarantee all debt of GSEs issued prior to a specified future date, after which no guarantee would be provided for new issues. Other benefits of agency status, including the line of credit at the Treasury and special regulatory privileges, would also be withdrawn. Sallie Mae would be required to pay off its $5 billion debt to the Federal Financing Bank.

The withdrawal of agency status would raise the cost of funds to all the sponsored enterprises and to the assisted sectors. If the Congress wished to offset this cost increase without reassuming contingent liability for enterprise debt, competitively determined cash subsidies could be paid to holders of specified financial instruments and to brokers under contract to "make a market" in such assets as student loans, residential mortgages, and loans secured by farmland. Because interest supplements--fixed by legislation rather than competition--are already paid on GSLs, subsidies to this sector would be required only for payments to contract-winning brokers who agreed to make a secondary market in guaranteed student loans.

Replacement of the Guarantee with Debt Insurance

As an intermediate step toward full privatization or as a permanent risk-control measure, the government could convert the implicit/explicit agency debt guarantee to self-financed, unsubsidized insurance. Under this plan, the government would charge risk-adjusted debt insurance premiums to current GSEs and to qualifying, fully private competitors. This fee-for-insurance plan could be structured to convey a subsidy, but the amount of the subsidy would be paid into the insurance fund by the government to permit its recognition in the budget. The major shortcoming of this approach is the inherent difficulty of calculating premium values approximately equal to the expected loss from increased risk.

Regulation, government ownership and operation, full privatization, and risk-adjusted debt insurance are capable, in abstract, of controlling government's risk exposure from GSEs. To choose among these alternatives requires a judgment as to which approach, in practice, is most likely to achieve this aim at the lowest cost. It may be that no single approach would suit all GSEs. In the case of Sallie Mae, where the government's current risk exposure is low and the purchase price would be high, government ownership

can probably be ruled out as an option. Regulation aimed at locking Sallie Mae into its present low-risk mode of operation would probably put an end to its innovative product and service development efforts. Management turnover would probably increase if a static environment was imposed. Full privatization would be most likely to increase competition in the secondary market for student loans.

In an important sense, Sallie Mae is the ideal sponsored enterprise: it has restricted its operations largely to pure intermediation while shedding almost all risks. GSEs that take few risks create few contingent liabilities for taxpayers and receive only a small GSE agency status subsidy. Despite Sallie Mae's current low-risk operating strategy, however, the government's potential, unbudgeted contingent liability could become large. The capital-cost advantage that Sallie Mae has over its competitors encourages management to expand, particularly into capital-intensive activities. It may in the future adopt higher-risk strategies as low-risk investment opportunities become depleted or as the guaranteed rate of return on GSLs is reduced.

CHAPTER I

A BRIEF INTRODUCTION TO THE GOVERNMENT-SPONSORED ENTERPRISES

The five government-sponsored enterprises or GSEs--the Federal National Mortgage Association (FNMA, Fannie Mae), the Federal Home Loan Mortgage Corporation (FHLMC, Freddie Mac), the Federal Home Loan Banks (FHLB), the Farm Credit Banks (FCB), and the Student Loan Marketing Association (SLMA, Sallie Mae) are intended to improve the access of retail lenders to the capital markets. 1/ They do so by selling debt instruments to investors and by using the proceeds to purchase: mortgages from banks, savings and loans, and other originators; notes of indebtedness from savings and loans; mortgages, production credit, and other debt from farm lenders; and guaranteed student loans from banks and education loan funds. GSEs are conduits or financial "middlemen," raising funds through the large-scale issue of standard, liquid securities and passing these on to those who disaggregate the monies into smaller quantities for lending to individuals.

Government-sponsored enterprises are now well-established, major participants in the capital markets. As indicated in Table 1, the first GSE link to the credit markets--the Federal Land Banks (FLB)--was established in 1916. Others were established in the 1920s and 1930s. The newest, Freddie Mac and Sallie Mae, attest that the GSE is still regarded as an appropriate vehicle of government policy. The GSEs rank among the largest financial enterprises. For example, the FLBs and Fannie Mae are the largest agricultural real estate and home mortgage lenders, respectively. Over 7 percent of the funds advanced in U.S. credit markets during 1984 passed through the GSEs. Total assets held by GSEs for themselves or as passthrough pools exceed the combined holdings of Bank of America and Citibank. Some of the GSEs are relatively small, however. Sallie Mae and the Banks for Cooperatives each have assets in the neighborhood of $10 billion. Despite their variation in age and size, the GSEs all have the same function: to intermediate between capital markets and retail financial institutions lending to target sectors.

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1. The Government National Mortgage Association (Ginnie Mae) is sometimes considered to be a sponsored enterprise. However, it is wholly owned by the federal government and is not included in this study.

PRIVATE OWNERSHIP AND FEDERAL SPONSORSHIP

Although some of the GSEs came into existence as government-owned entities, all are now privately owned. The dates of privatization shown in Table 1 (where different from the dates of establishment) are somewhat

TABLE 1. GOVERNMENT-SPONSORED ENTERPRISES

Name	Established	Privatized	Assets a/	Major Asset
Farm Credit Banks				
Federal Land Banks	1916	1947	55.4	Farm mortgages
Federal Intermediate Credit Banks	1923	1968	19.4	Loans to production credit associations
Banks for Cooperatives	1933	1968	10.1	Loans to cooperatives
Federal Home Loan Banks	1932	1951	97.0	Savings and loan advances
Federal National Mortgage Assn.	1938	1968	88.4b/	Mortgages
Federal Home Loan Mortgage Corp.	1970	1970	13.2c/	Mortgages
Student Loan Marketing Assn.	1972	1982	11.6	Guaranteed Student Loans and "warehouse" loans

SOURCE: Congressional Budget Office.

a. Total assets are in billions of dollars as of year-end 1984.

b. Does not include $36 billion in mortgages held in pools to back securities issued by the Federal National Mortgage Association.

c. Does not include $73 billion in mortgages held in pools to back securities issued by the Federal Home Loan Mortgage Corporation.

arbitrary, but usually indicate when the GSEs repaid the U.S. Treasury their initial start-up capital provided by the federal government. Such repayment was facilitated by the willingness of government to forgo a return on its investment. In the case of Freddie Mac, the establishment and privatization dates are the same because the FHLMC is owned by the FHLBs which in turn are owned by member savings and loan associations. Sallie Mae was privately owned from the outset, but began borrowing directly from the capital markets, rather than from the Treasury's Federal Financing Bank, in 1982. The FCBs are "cooperatively owned" by borrowers and local lending units. Fannie Mae and Sallie Mae equities are now traded on the New York Stock Exchange.

The sponsored enterprises are distinguished from fully private financial intermediaries by their close, favored relationship with the federal government. Indeed, GSE debt trades in the financial markets as "agency debt," meaning that it is handled as though it were the debt of the U.S. Treasury and is not rated as to investment grade by Fitch, Standard and Poor's, or Moody's Investor Services. In addition, the U.S. Treasury is authorized to lend directly to or invest in FNMA ($2.25 billion), SLMA ($1.0 billion), FHLBs ($4.0 billion and indirectly, therefore, to FHLBs' wholly-owned FHLMC), and to the FCBs (over $250 million). GSE debt can also be purchased by the Federal Reserve on the open market, used as collateral for public deposits, and held without limit by member banks of the Federal Reserve System and institutions insured by the FDIC and the FSLIC. GSE debt is exempt from SEC registration laws and--by federal preemption--from state "blue sky" investor protection laws.

These special provisions of law and regulation, which are not usually available to fully private firms, are not the whole story. It may be that the GSEs receive even greater advantages from the market's perception of them as exempt from the danger of bankruptcy, making GSE debt appear nearly equivalent to Treasury debt. Consequently, they are usually able to borrow in the open market at rates below those available to the highest-rated, fully private firms. During the past three years (with important exceptions to be discussed below), GSE debt has paid rates of only 20-40 one-hundredths of a percent (or basis points) more than U.S. Treasury debt of the same maturity.

THE POSITION OF GSEs IN THE CREDIT MARKET

The GSEs' cost-of-money advantage often enables them to occupy dominant positions in their loan markets. For example, the Farm Credit Banks hold

more than one-third of all loans to farmers. The Federal Home Loan Banks have advanced more than half of all borrowings by savings and loan associations. And Sallie Mae's loan portfolio comprises about one-third of all outstanding guaranteed student loans.

Before the GSEs were established, financial institutions serving farmers, homeowners, and students often lacked immediate access to the capital markets. As a consequence, credit for these borrowers was very costly and, in some instances, unavailable. 2/ The resulting allocation of capital among different uses was inefficient. The founding of the GSEs created intermediaries between the capital markets and those sectors of the economy thought to be excluded from the competition for credit. By almost any standard, the GSEs have succeeded in creating the desired financial linkages. 3/

The body of this report focuses on the Student Loan Marketing Association as a privately owned, federally sponsored financial intermediary. In profitably accomplishing its objective of linking the retail GSL and capital markets, Sallie Mae has benefited substantially from its agency status.

In order to explain the nature and costs of the agency status subsidy, the paper is organized as follows: Chapter II examines in detail the financial structure of Sallie Mae--what it does and why this is highly profitable. Chapter III discusses the subsidy provided to Sallie Mae and to all GSEs by government through the implicit guarantee of agency debt. Chapter IV identifies some of the adverse public policy effects of the sponsored enterprise/implicit guarantee approach and considers some alternatives to current policy.

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2. An alternative statement is that some regions of the country suffered funds shortages whereas others had surpluses of investment funds. The function of the GSEs in this view was to link the two types of region so that funds could flow from low-interest to high-interest markets.

3. For a more detailed introduction to GSEs, see Michael J. Moran, "The Federally Sponsored Credit Agencies: An Overview," *Federal Reserve Bulletin* (June 1985), pp. 373-388.

CHAPTER II

THE STUDENT LOAN MARKETING ASSOCIATION

The Student Loan Marketing Association (Sallie Mae) was established in 1972 to increase the availability of student loans by providing funds to lenders. Sallie Mae does so through the purchase of Guaranteed Student Loans (GSLs) from eligible lenders and through the loan of funds to lenders. As a financial intermediary, Sallie Mae taps funds from investors willing to buy near-Treasury-quality debt and channels the proceeds to those willing to lend to students. Before Sallie Mae, no such conduit existed for privately originated student loans. In 1984, Sallie Mae purchased $1.5 billion of GSLs and loaned an additional $1 billion in so-called warehousing advances for relending to students. The $2.5 billion sum amounted to about one-third of retail GSL lending for 1984.

Sallie Mae has succeeded in its assigned mission, but it has several attributes that make it worthy of continued Congressional attention. Its borrowings of over $2 billion per year make it a significant player in the U.S. capital markets. Its dominance of the secondary market for student loans is due in part to its federal "agency" status. Its activities and earnings are also directly related to federal higher education policy, most especially to the Guaranteed Student Loan Program that assures lenders a yield of 350 basis points over Treasury bills on a riskless asset. Finally, Sallie Mae--as one of the least risky GSEs--provides a useful starting point for a consideration of the federal government's contingent liability for the debts of these enterprises.

SALLIE MAE'S STOCKHOLDERS

Ownership of Sallie Mae is by three classes of shareholders: owners of voting common, nonvoting common, and adjustable-rate preferred stock. By statute, only educational and financial institutions eligible to participate in the GSL program may own voting stock. The four largest holders of voting stock in September 1984 were Citibank, First National Bank of Chicago, Brown University, and Harvard University. Together, these institutions held about 18 percent of the 26 million shares of voting common stock then outstanding.

In March 1983, Sallie Mae issued $250 million of preferred stock, which pays dividends of 450 basis points *below* the highest yield of certain long- and short-term Treasury securities; the preferred stock guarantees a 5 percent return but has a ceiling yield of 14 percent. For 1984, the preferred stock dividend averaged 8.14 percent. In September 1983, Sallie Mae created the third type of ownership by selling 5.5 million shares of nonvoting common at $20 per share to the general public; at the same time, 6 million shares of voting common were converted to nonvoting common on a share-for-share basis. Provision was also made for limited future conversions of voting to nonvoting stock.

Sallie Mae nonvoting common is traded on the New York Stock Exchange where it has ranged in price during the last year from $24.125 to $36. It closed on November 6 at $36. Earnings per share in 1984 were $1.91. Dividends are paid equally on both types of common stock (12 cents per share in 1984) but, because of the limitations on ownership, voting common tends to trade at a substantial discount in an inactive market.

ACTIVITIES AND PROFITABILITY

The Student Loan Marketing Association is a financial intermediary conveying funds to qualified lenders under the federal Guaranteed Student Loan (GSL) program. As such, it assures loan originators, and ultimately students, of access to the capital of those who wish to invest in marketable debt securities. Sallie Mae carries out this function by standing ready to purchase guaranteed loans from educational and financial institutions and to make secured advances (so-called warehousing advances) to these institutions. Sallie Mae's purchases have spawned the development of a secondary or resale market in these loans, increased the liquidity of GSLs, and thus made lenders more willing to grant loans to students. Sallie Mae's authority has subsequently been broadened to other types of education loans including noninsured student loans, Health Education Assistance Loans (HEAL), loans to parents of dependent undergraduate students, loans to independent students, and loans to graduate and professional students (PLUS/ALAS). 1/

Sallie Mae obtains the funds it makes available to others from the capital markets through a variety of financial instruments: loans from the U.S. Treasury via the Federal Financing Bank (FFB); discount notes; floating

1. For more details on federally guaranteed loan programs for students, see Appendix A.

and fixed-rate notes; and convertible debentures. Recently, it sold yen-denominated securities in Western Europe.

Of the three distinct activities involved in GSL lending, loan origination, loan servicing, and loan financing, Sallie Mae is most specialized in finance. Through loan purchases and warehousing advances, it has provided funding for about one-third of all outstanding GSLs. Prior to 1979, the Association had no loan servicing capability and instead contracted for this service. Since then, it has opened two loan service centers that process about one-third of its portfolio. The remainder is handled by others under one-year, negotiated, third-party service contracts. Sallie Mae does not originate student loans.

The firm's condensed balance sheet, shown in Table 2, reflects the nature and scale of its principal activities. In September 1985, Sallie Mae held $6.5 billion in student loans and $5.1 billion in secured warehousing advances. Sallie Mae's outstanding debts include $5 billion to the FFB and $7.5 billion in long- and short-term borrowings from private lenders. Investors have also provided more than $650 million in shareholders' capital, $250 million of which is adjustable-rate preferred stock and $273 million of which is retained earnings.

Sallie Mae's earnings are noteworthy for their size and growth. As shown in Table 3, annual after-tax earnings have increased more than ten-fold over the last five years. 2/ While precedents exist for such an earnings performance--including the Federal Home Loan Mortgage Corporation which earned over 40 percent on equity in 1984--it is unusual. In fact, Table 3 understates Sallie Mae's earnings in that it reflects the firm's provision for federal income taxes at the statutory tax rate of 46 percent. Federal income taxes actually paid (total less deferred) in 1982, 1983, and 1984 were 21, 18, and 24 percent of pretax net income. Table 3 also compares Sallie Mae's after-tax earnings as a percent of equity and of assets with those of the largest U.S. commercial banks. By these measures, its performance has been superior.

The earnings of a financial intermediary can be described conveniently in terms of three interrelated variables: the yield on assets, the cost of

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2. See also U.S. General Accounting Office, *Secondary Market Activities of the Student Loan Marketing Association*, Report to the Committee on Labor and Human Resources, U.S. Senate (GAO/HRD 84-51, May 19, 1984).

TABLE 2. SALLIE MAE'S CONDENSED BALANCE SHEET, DECEMBER 31, 1984 AND SEPTEMBER 30, 1985
(In millions of dollars)

	12/31/84	9/30/85
Assets		
Student loans	5,572.9	6,476.4
Warehousing advances	4,230.1	5,106.2
Cash and investments	1,395.7	1,613.9
Other assets	421.5	418.7
Total Assets	11,620.2	13,615.2
Liabilities and Stockholders' Equity		
Short-term debt	2,436.6	2,936.5
Long-term debt		
Federal Financing Bank	5,000.0	5,000.0
Private lenders	3,108.2	4,533.3
Other liabilities	498.8	496.2
Stockholders' equity		
Voting common, par value $0.50, 26.1 and 20.3 million shares outstanding, respectively	13.1	10.2
Preferred stock, floating rate, par value $50, 5 million shares	250.0	250.0
Nonvoting common, par value $0.50, 15.1 and 20.9 million shares outstanding, respectively	7.6	10.5
Additional paid-in capital (principally proceeds in excess of par value from issuance of nonvoting common)	105.2	105.3
Retained earnings	200.7	273.4
Total Liabilities and Equity	11,620.2	13,615.2

SOURCE: Student Loan Marketing Association.

money, and operating expenses. For Sallie Mae, the yield on assets exceeds the cost of money and operating expenses by a substantial and increasing margin. This phenomenon can be explained further by considering those factors that affect the behavior of the three key variables.

Sallie Mae's Asset Yield

About 85 percent of the Association's assets are GSLs and warehousing advances made to institutions that use these funds to make student loans. The remainder of Sallie Mae's assets consist of short-term investments in U.S. Treasury bills, commercial paper, and overnight loans to banks; small, working cash balances; and miscellaneous items such as accrued interest receivable. Rates of interest earned by each of the three major categories

TABLE 3. AFTER-TAX EARNINGS AND RATES OF RETURN TO EQUITY AND ASSETS, SALLIE MAE AND LARGE COMMERCIAL BANKS, 1980-1985

	SLMA After-Tax Earnings (millions of dollars)	Return on Average Equity (percent)		Return On Average Assets (percent)	
		SLMA a/	Banks b/	SLMA c/	Banks b/
1980	9.4	20.2	14.6	0.45	0.60
1981	18.0	30.6	14.5	0.45	0.60
1982	37.8	44.8	13.2	0.62	0.56
1983	66.6	33.8	10.3	0.83	0.48
1984	99.3	27.5	9.3	1.00	0.44
First Nine Months 1985	90.6	28.7	n/a	0.99	n/a

SOURCES: Student Loan Marketing Association and Federal Deposit Insurance Corporation.

NOTE: n/a = not available.

a. Common equity only. Preferred equity outstanding at large commercial banks amounted to 0.05 percent of total assets at year-end 1984. Preferred is more important to the equity positions of bank holding companies than of banks.

b. Banks with assets greater than $5 billion.

c. Earning assets only.

of assets are shown in Table 4 along with the average yield on the 91-day Treasury bill.

It is evident in Table 4 that all of these yields move together. All rates shown peak in 1981, drop to a trough in 1983, and rebound in 1984. This close association in rate movements results from the GSL program provision that assures a yield of 350 basis points (3.5 percentage points) above the bond-equivalent yield on the three-month Treasury bill (calculated and adjusted quarterly based on the average bill auction rate). Similarly, Sallie Mae offers adjustable as well as fixed rates on its warehousing advances. Because borrowers of these advances anticipate earning rates linked to the changing T-bill rate, they tend to prefer floating-rate loans. In late 1984, Sallie Mae was offering advances secured by GSLs to banks and savings and loan associations for six months to ten years at from 85 to 140 basis points over the T-bill rate. Yields on its investments (such as overnight loans to commercial banks) track the T-bill rate closely because these investments are short-term instruments that compete with Treasury bills in investors' portfolios.

TABLE 4. INTEREST RATES ON SALLIE MAE'S ASSETS, 1980-1985 (In percent)

	Student Loans (net of deferred income [a] and servicing costs)	Warehousing Advances	Investments	Average 91-day Treasury Bill Rate
1980	14.02	12.85	13.24	12.08
1981	16.65	15.61	16.15	14.75
1982	13.02	12.15	12.72	11.13
1983	11.55	10.08	9.64	8.96
1984	12.53	10.99	11.72	9.96
First Nine Months 1985	10.46	8.96	10.31	7.85

SOURCE: Student Loan Marketing Association.

a. A portion of interest income on loans not yet in repayment is deferred to cover estimated future loan servicing.

Table 4 also reveals an increase in Sallie Mae's student loan net yield spread over the 91-day T-bill rate to about 250 basis points in 1983 and 1984 from 190 basis points in 1980-1982. This increase reflects its favorable loan-servicing cost experience, which resulted in lower estimated future costs and deferred income.

No adjustment or provision for default losses is made because student loans are fully guaranteed by state authorities backed by the federal government or by the federal government directly. Similarly, warehousing advances are fully collateralized by GSLs or other obligations guaranteed by the U.S. government. Finally, the default risks of SLMA short-term investments are very close to zero.

Sallie Mae's Cost of Money

Sallie Mae's cost of debt, which varies with the yield on T-bills, averaged 31-32 basis points above the 91-day Treasury bill rate during 1983-1984. The linkage of both asset yields and debt costs to the T-bill rate has enabled Sallie Mae to avoid most interest-rate risk. Interest-rate risk arises when the effect of changes in interest rates on assets differs from the effect on liabilities. For example, intermediaries that use short-term liabilities to finance fixed-rate, long-term assets are subject to the risk that interest rates on debt will rise while rates on assets stay the same. One way to avoid interest-rate risk is to match the maturities of fixed-rate assets and fixed-rate liabilities. Another is to finance floating-rate assets with floating-rate debt. Sallie Mae has essentially taken the latter approach. It has outstanding $600 million in long-term floating-rate notes paying an average of 48 basis points above the average three-month Treasury bill rate, adjusted quarterly. More important, Sallie Mae also has $2.3 billion outstanding in fixed-rate notes that have been converted to variable rates through interest-rate exchange agreements. 3/ These agreements had the effect of fixing the cost of funds on these securities at 21 basis points over the 91-day Treasury bill rate for 1984. Because both asset yields and borrowing costs are linked to the T-bill rate, they tend to move together (see Table 5).

Sallie Mae's cost of money not only varies with the Treasury bill rate; it is usually lower than that of fully private, nonsponsored firms. Borrowing

3. "Under these agreements, Sallie Mae makes periodic payments, indexed principally to the 91-day Treasury bill rate, in exchange for periodic fixed payments which generally match interest obligations on the fixed rate notes." Student Loan Marketing Association, *Annual Report 1984*, p. 27.

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TABLE 5. YIELDS ON SALLIE MAE'S INTEREST-EARNING ASSETS AND INTEREST-BEARING LIABILITIES, 1980-1985 (In percent)

	Asset Yield (1)	Liability Cost (2)	Net Interest Spread (1-2)
1980	13.40	12.17	1.23
1981	16.06	14.79	1.27
1982	12.58	11.18	1.40
1983	10.75	9.28	1.47
1984	11.87	10.22	1.65
First Nine Months 1985	9.87	8.14	1.73

SOURCE: Student Loan Marketing Association.

costs for the firm are close to the Treasury's risk-free cost of money because lenders have "double coverage" against loss. The first layer of protection is the quality of Sallie Mae's assets. The firm holds a portfolio of government-guaranteed and government-secured loans whose yields adjust automatically to open-market interest-rate changes. In a relatively short period, Sallie Mae could liquidate its assets and pay off its creditors in full.

Second, the credit markets perceive Sallie Mae as exempt from the danger of default and bankruptcy by virtue of its special relationship with the federal government, usually referred to as its "agency status." 4/ From the beginning of its chartering by the Congress, it has been regarded as an instrumentality of the U.S. government. A start-up cash advance of $5 million was authorized in Sallie Mae's enabling legislation. 5/ The Secretary of Health, Education and Welfare (later Education) was authorized to guarantee the financial obligations of Sallie Mae. (This authority, which had not been used by Sallie Mae since January 1982, expired in September 1984.) Sallie Mae has a $1 billion backup line of credit at the U.S. Treasury. One-third of Sallie Mae's 21-member board of directors are appointed by the

4. This view--that GSE debt is free of default risk--is not universally held. Market yields indicate, however, that GSE debt is usually regarded as less risky than the debt of the highest-rated, fully private firms.

5. This authority was never used. Instead, Sallie Mae established a line of credit with a commercial bank to meet its initial expenses.

President. Issues of Sallie Mae debt must be approved by the Secretary of the Treasury. In addition, its obligations are treated as debt of the U.S. government in the following respects:

- The Treasury accepts them as collateral for tax and loan accounts;
- The Federal Reserve System can purchase them in the open market;
- The financial markets do not require a rating as to investment grade but deal in them as "agency" (of the U.S. government) securities; and
- Interest earned on its obligations is exempt from state and local income taxes.

Even though Sallie Mae debt has no explicit U.S. guarantee, Chapter III suggests that an explicit guarantee would not reduce the cost of money to Sallie Mae very much, except on those occasions when the strength of the implicit guarantee is viewed by the markets with suspicion. For credit evaluation purposes, GSE debt is usually regarded as nearly equivalent to Treasury debt. While the yield on agency debt ordinarily exceeds the rate on U.S. Treasury securities and is usually below that of the highest-grade private securities, the relative yield varies with capital market conditions and the extent of confidence in the "implicit" guarantee. Table 6 indicates how agency yields and the highest-rated private, industrial, and utility borrower rates have moved in relation to Treasury rates over the last five years for intermediate maturities. The 1981 peak in the agency-Treasury spread (together with a negative agency-AAA industrials spread) appears to have resulted from a loss, followed by a recovery, of investor confidence in the strength of the federal government's implicit guarantee of agency debt. Recent news reports of Farm Credit Bank loan losses and, more important, the declaration by the governor of the Farm Credit Administration that "We cannot absorb the losses we face," 6/ caused Farm Credit Bank yields to rise to about 100 basis points over U.S. Treasury rates.

More specific comparisons of spreads also indicate that agencies ordinarily have a cost-of-money advantage over fully private, highly rated firms. For example, in a mid-March 1985 sale of $325 million floating-rate,

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6. *Wall Street Journal*, September 9, 1985.

TABLE 6. ESTIMATED YIELD SPREADS ON NEWLY ISSUED MEDIUM-TERM AGENCY, AAA INDUSTRIAL, AAA UTILITY, AND U.S. TREASURY SECURITIES
(In basis points, 1980-1985)

	Agencies a/ vs Treasury	AAA Industrials vs Treasury	AAA Utilities vs Treasury
1980	36	37	75
1981	55	35	76
1982	38	50	98
1983	14	45	56
1984	21	34	36
1985 (first eight months)	25	30	25
Sept. 13, 1985	31	24	26

SOURCE: Salomon Brothers.

a. The "agency" issuers are: the Farm Credit Banks, the Federal Home Loan Banks, the Federal National Mortgage Association, and Sallie Mae. The agency rate consists of traders' estimates of the "expected" yield on a hypothetical, generic issue.

six-month notes, Sallie Mae paid 15 basis points over the bond-equivalent yield on three-month Treasury bills. At the same time, Citicorp (whose debt is rated AA) paid an average of 56 basis points over the current bond-equivalent yield on T-bills on $150 million in commercial paper due in 91 and 182 days. 7/

Sallie Mae's Operating Expenses

Because it is a wholesale intermediary, Sallie Mae's transactions are relatively large, interinstitutional ones and its operating expenses--principally

7. For another comparison, Sallie Mae issued four-year floating-rate notes in March 1985 ($350 million) paying just over 50 basis points above the 91-day Treasury bill rate. Citicorp's three-year floating-rate notes ($100 million) sold at the same time yielded 75 basis points over the bill rate.

salaries, employee benefits, and occupancy costs--are small in relation to its asset size. Table 7 shows these expenses declining over five years from about one-half to one-third of 1 percent of earning assets. By contrast, large commercial banks--even those that attempt to specialize in wholesale rather than retail credit--typically encounter operating expenses in excess of 3 percent of total assets annually. Commercial bank costs tend to be higher because of the costs of operating branches and performing other activities not undertaken by Sallie Mae. Reported operating expenses are further reduced by its practice of deducting GSL servicing costs from GSL gross yields. Some additional, relatively minor, cost savings accrue from Sallie Mae's exemptions from SEC registration requirements, state investor protection laws, and the need to obtain debt ratings. Sallie Mae is also exempt from state and local income taxes. The "operating income" data shown in Table 7 reflect fees that were obtained from the issuance of letters of credit in support of education finance and other education-related financial services.

Performance Summary

Some major managerial achievements of Sallie Mae can be shown by displaying the net interest margin on portfolio (asset yield less the cost of liabilities, adjusted for equity financing of some assets) alongside net operating expenses and taxes--as in Table 8. At the same time that the firm has widened the spread between asset yield and interest-funding cost--primarily

TABLE 7. SALLIE MAE'S OPERATING EXPENSES AND OPERATING INCOME, 1980-1984 (In percent of earnings assets)

	1980	1981	1982	1983	1984
Operating Expense	0.48	0.45	0.38	0.36	0.32
Operating Income	0.02	0.02	0.03	0.04	0.04
Net Expense	0.46	0.43	0.35	0.32	0.28

SOURCE: Student Loan Marketing Association.

by lowering GSL loan-servicing expense and increasing the use of equity financing--it has reduced net operating expenses per dollar of earning assets 40 percent in five years. The result has been rapidly increasing earnings per dollar of assets, which, when multiplied by a fivefold increase in assets, explains the rapid rise in total profits.

For reasons mentioned above, the taxes shown in Table 8 probably overstate the firm's tax burden. Nonetheless, and partly in response to the rising tax rate, Sallie Mae has been acquiring a portfolio of tax-advantaged investments including tax-exempt bonds issued by state student loan agencies. For this reason, net interest in Table 8 is expressed on a fully taxable basis in 1984, by raising tax-exempt income to a taxable equivalent amount.

THE REASONS FOR SALLIE MAE'S PROFITABILITY

Ordinarily high profits are associated with high risk, but Sallie Mae is far more profitable than other financial intermediaries that assume more risk.

TABLE 8. SALLIE MAE'S NET INTEREST MARGINS, NET OPERATING EXPENSES, AND TAXES, 1980-1984
(In percent of earning assets)

	1980	1981	1982	1983	1984
Net Interest Margins a/	1.28	1.26	1.47	1.83	2.14
Net Operating Expenses	0.46	0.43	0.35	0.32	0.28
Net Income Before Taxes	0.82	0.83	1.12	1.51	1.86
Federal Taxes (Current and Deferred)	0.37	0.38	0.50	0.68	0.68
Net Income	0.45	0.45	0.62	0.83	1.00

SOURCE: Student Loan Marketing Association.

a. Tax equivalent in 1984. Before tax equivalency adjustment, the 1984 net interest margin was 1.96 percent.

This can be "explained" at a fairly superficial level in terms of the three key variables: a yield on assets that is high in relation to the cost of money and operating expenses. One can go further and explain the high asset yield in terms of the GSL program, which both guarantees against default and assures a rate of return 350 basis points above the T-bill rate. The relatively low cost of money to Sallie Mae can be attributed, as has been done here, to two factors: its low-risk portfolio and its agency status. Further, its management has effectively controlled costs and hedged its interest-rate risks. The GSL program, agency status, and effective cost management are combined at Sallie Mae to produce a notable earnings performance by a low-risk enterprise.

Yet these factors are insufficient to explain the firm's persistent and increasing profitability. Earnings opportunities such as those evidenced by Sallie Mae ordinarily would attract competitors who would bid up the price (and lower the yield) of GSLs. If this were to happen, the net interest margin and profitability of student loans and warehousing advances would decrease. In fact, Sallie Mae's successes have increased the participation of large commercial banks and state-sponsored agencies in the secondary market for guaranteed student loans, but the anticipated yield adjustments have not occurred. Sallie Mae's cost-of-funds advantage on taxable debt issues, and the related dependency of other market participants on Sallie Mae, may constitute a deterrent to vigorous price competition in the secondary market for GSLs.

Commercial banks both originate and, to a lesser extent, purchase GSLs. They receive the same gross rate of return on these loans as Sallie Mae--350 basis points over the T-bill rate--but they cannot consistently acquire funds on the same terms as Sallie Mae. 8/ In late 1984 for example, the best student loan financing alternative for many large banks was reported to be Sallie Mae's warehousing advances (6-month to 10-year maturities) at 85 to 140 basis points over the T-bill rate, a 50-105 basis points disadvantage compared to its cost of funds.

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8. Sallie Mae denies that it has a cost-of-funds advantage over the highest-rated commercial banks and cites instances in which the average cost of interest-bearing liabilities for certain banks has been up to 200 basis points less than that of Sallie Mae during given periods. A part of this discrepancy is explained by Sallie Mae's practice of including the cost of hedging interest-rate risk in its cost of money and comparing that adjusted

(Continued)

At least 29 state-sponsored agencies also purchase loans in the GSL secondary market. 9/ These state agencies have financing options similar to those facing commercial banks: they can borrow directly from the money and capital markets or borrow from Sallie Mae. One big difference for state agencies is that interest on securities issued by state and local authorities is exempt from federal income tax. Thus, tax-exempt authorities face a cost of funds that is lower than the Treasury's and Sallie Mae's. In December 1984, for example, the cost of fixed-interest borrowing by high-rated, tax-exempt authorities was about 200 basis points lower than the cost of funds to the Treasury. To compensate for the lower cost of money, the rate of interest the government pays on GSLs financed with tax-exempt securities is reduced. Tax-exempt financing entitles the holder of federally insured loans to the stated rate (currently 8 percent) and one-half of the "special allowance"--the interest supplement paid by the federal government to assure a total yield of 350 basis points over the T-bill rate. 10/

The benefit of tax-exempt status for the state-sponsored agencies was further restricted by the Student Loan Amendments Act of 1983, which requires state loan agencies to obtain the U.S. Secretary of Education's approval (subject to appeal to the Secretary of the Treasury) to issue tax-exempt bonds for the purpose of financing GSLs. This approval has not been granted freely in the absence of a showing that the supply of taxable funds--including Sallie Mae advances--is inadequate to meet the demand for student loans or a showing that intermediation would not be profitable with taxable financing. 11/

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8. (Continued)
rate to a bank rate that is not adjusted for the reserve requirements to which commercial banks are subject. In any case, these "average cost of funds" comparisons are not decisive because it is the incremental or marginal cost of funding that is relevant for bank behavior.

9. Mark L. Wolfe, "Selected Data on State Direct Loan and Secondary Market Programs for Postsecondary Student Loans," Congressional Research Service, Library of Congress, March 22, 1984.

10. Tax-exempt-financed holdings of GSLs are assured, however, a minimum yield of 9.5 percent on GSLs, no matter how low Treasury bill rates may drop.

11. Mark L. Wolfe, "An Overview of Actions Taken by the U.S. Department of Education to Review New Issues of Tax-Exempt Student Loan Bonds," Congressional Research Service, Library of Congress, February 8, 1984. Tax-exempt student loan bond issues peaked at $3.3 billion in 1983. Issues in 1984 totaled about $1.1 billion.

The halving of the special allowance and the necessity of obtaining Department of Education approval for the use of tax-exempt GSL financing means that taxable financing is often a superior alternative for state-sponsored agencies. Taxable funding sources are Sallie Mae and, to some extent, commercial banks. State secondary market agencies are, thus, in a position similar to commercial banks: when they compete against Sallie Mae in the secondary market for GSLs, they do so against what is often their most attractive funding source.

Sallie Mae's low-cost funding advantage probably gives it the ability to dominate the secondary market for GSLs. Although Sallie Mae assets constitute about 30 percent of outstanding GSLs, management apparently has chosen to restrain its market share by standing ready to purchase GSLs but only at a ceiling price of par, or the face amount of the loan.

That a financial asset of demonstrated, exceptional profitability should trade in an open market at a maximum price of its face value is highly significant. Ordinarily, in competitive markets, the price of such attractive debt instruments is driven above the principal amount. The failure of GSL prices to rise above par in the secondary market strongly suggests the absence of vigorous price competition.

One explanation for the failure of market prices and GSL yields to adjust is the absence of a prepayment penalty in GSL contracts. Without restrictions on premature payoff, secondary-market investors may be reluctant to pay a premium for an income stream of uncertain duration. However, the average, post-grace-period maturity of more than seven years would seem to be sufficient to justify premium prices for institutional investors.

The weak state of competition in the secondary market might also be explained by the high frequency of change in the GSL program. Private investors may be reluctant to bear the start-up cost of acquiring a portfolio of assets whose investment characteristics are subject to sudden revision. In fact, the GSL program has been revised or amended at least 32 times in the last 20 years. Since 1979, however, the basic character of the GSL as an investment instrument has been unchanged: 100 percent guarantee of principal and interest with an assured, quarterly variable rate of return equal to 350 basis points over the 90-day Treasury bill rate. Numerous private and public entities have incurred the start-up cost of entering this market.

Other explanations that have been offered for the ceiling price of GSLs in the secondary market include: economies of scale in loan processing

that presumably are available only to Sallie Mae as the largest holder, regulatory restrictions on entry by fully private intermediaries, and the effect of "newly produced" GSL loans yielding 350 basis points over Treasury bills. These explanations are somewhat difficult to square with the existence of national student loan servicing companies; the absence of restrictions on nonbank subsidiaries of bank holding companies; and the fact that many GSL secondary market investors (including Sallie Mae) are not permitted to originate "new" GSLs.

In sum, Sallie Mae is a highly profitable intermediary because of the high guaranteed yield on GSLs, effective management, a low cost of funds, and the absence of vigorous price competition. Its agency status appears to have contributed to the low cost of funds and to Sallie Mae's influence over the secondary market price of student loans.

CHAPTER III

THE VALUE OF AGENCY STATUS: THE IMPLICIT GUARANTEE TO SALLIE MAE

From a federal budgetary point of view, the issue raised by a government-sponsored enterprise pertains to the grant of resources by government to that entity: their value and their representation in the Budget of the United States. This chapter discusses the nature of the sponsored enterprise subsidy--principally, debt guarantee services provided to Sallie Mae without charge--and estimates its value. First, the GSE subsidy is distinguished from the subsidy conveyed by the GSL program. Second, Sallie Mae is compared to a hypothetical, unsubsidized, risky but highly regarded financial intermediary in order to identify the nature of assistance provided by the implicit guarantee. Third, an estimate of the magnitude of the subsidy to Sallie Mae is calculated. Since 1982, using one estimating approach, the subsidy has averaged about 30 basis points per year for each dollar of Sallie Mae debt outstanding.

Sallie Mae receives two, conceptually different, subsidies. The first, which is provided through guaranteed high-interest yields under the Guaranteed Student Loan Program, is paid to all holders of such loans and is distinct from a subsidy provided to an entity as a result of its government-sponsored status. Here the focus is on the second subsidy: that received by Sallie Mae solely because of its agency status, independently of the subsidized loan assets it holds.

SALLIE MAE AS HIGH-PERFORMANCE BANK

The significance of the assistance that Sallie Mae receives from its agency status can be seen by treating the firm as a well-managed, but somewhat risky, triple-A-rated financial intermediary. The key terms are risky and triple-A-rated. If Sallie Mae is risky, it is reasonable that its equity should earn a rate of return above that available on riskless assets. If it is among the most creditworthy financial institutions, it should be able to borrow on the most favorable terms. But it earns more than higher-risk firms; and its cost of money is usually below that of the most creditworthy, fully private borrowers.

Sallie Mae and Risk

Sallie Mae assumes no significant risk from defaults (credit risks) or interest-rate movements (interest-rate risk). These are two of the biggest threats to financial intermediaries. Nevertheless, Sallie Mae is not a riskless intermediary. It assumes some risk, although much less than that of most other financial institutions.

Risk refers to the possibility that actual outcomes will differ from the expected. Sallie Mae's earnings are subject to divergence from expectations as a result of operating, political, and funding risks. Operating risk arises, in part, because the future cost of servicing GSLs is uncertain. Even though the gross yield is linked to the cost of money, the net yield can be below the anticipated rate if operating costs rise. Sallie Mae has reduced the cost of servicing GSL loans to about 75 basis points per year, partly through the operation of its loan service centers and partly through its ability to negotiate favorable third-party service contracts. But it has no hedge against an uncontrollable increase in these costs. Moreover, if Sallie Mae fails to meet the "due diligence" loan collection standards of the Department of Education, the GSL guarantee can become void. Further, the interest-rate exchanges that Sallie Mae has used to reduce risk can fail if the other party to the agreement defaults. Other operating risks include the possibility of loss from fraud, from letters of credit, and from the firm's newly established savings and loan, the First Capital Corporation of Southern Pines, North Carolina. Sallie Mae has also proposed an expansion of its federal charter to permit it to finance educational facilities construction projects. Provision for such expansion has been proposed for inclusion in Title VII of the Amendments to the Higher Education Act of 1965, which is now before the Congress.

Expectations of earnings from future student loans could also be disappointed by a government policy decision to reduce the interest-rate subsidy or amount of principal guaranteed on GSLs. Similarly, "user fees"--or insurance premiums levied on each dollar of debt issued by a sponsored enterprise, as proposed by the Administration in January 1985--could lead to a small but unanticipated decline in earnings if adopted.

Funding risk arises in connection with Sallie Mae's outstanding commitments to purchase GSLs in the future at currently specified prices. It issues these commitments on the basis of an expected cost-of-money spread over the benchmark Treasury bill rate. Unforeseen events could increase the interest-cost spread over T-bills. The possibility of such an increase poses a risk that actual earnings will not match expectations.

Sallie Mae as Triple-A Borrower

The cost of borrowed money to Sallie Mae and other GSEs is usually below that of triple-A, or highest-rated, fully private credit risks (see Table 6). If one were to assume that it is appropriately viewed as "just another top-rated bank," this would explain some of Sallie Mae's cost-of-money advantage in the GSL secondary market. This interpretation would also enable Sallie Mae earnings/asset ratios to be described as falling within a "normal" range in recent years. Table 9, Panel A, shows that the earnings/assets rate for Sallie Mae is comparable to that of a group of similar-size banks, with two large, highly-rated banks, and with the largest banks' average. This view of Sallie Mae would not, however, explain its return on equity investment, which is shown in Panel B. No comparable, fully-private intermediary or group of banks has achieved earnings-to-equity rates as high as Sallie Mae's over the last five years.

The difference between the "normal" appearance of Sallie Mae's return on assets and its "above-normal" return on book equity stems from its leveraged position. The larger the proportion of assets financed with debt rather than equity, the more equity is leveraged. More leverage means that each dollar of equity investment is joined with more dollars of debt to finance larger asset holdings, which yield earnings to equity shareholders. The high earnings-to-book-equity rate currently being recorded by the firm is much greater than the return earned by a new investor in Sallie Mae common stock. Earnings per share for the 12 months ending September 30, 1985, were 7.7 percent of the price of a share of nonvoting common. This rate of return is about 40 percent less than the rate earned on shares of comparable-size commercial banks. Put differently, Sallie Mae shares are priced at about 13 times earnings compared to typical bank price/earnings ratios of 7.5. Even though the current yield on Sallie Mae shares is less than that available elsewhere, investors presumably anticipate the rate of return will be less volatile or faster growing than alternative investments.

Sallie Mae remains a highly leveraged intermediary. Though its shareholders' equity is approaching that of some large commercial banks, Sallie Mae has less equity per dollar of assets than the fully private individual banks to which it has been compared (see Table 10). The difference is especially sharp if Sallie Mae's 1983 issue of floating rate preferred is excluded from equity. Even though floating rate preferred is ordinarily included in total equity, the preferred issue--much as debt would have done--increased the leverage of the common equity. Further, because the dividend on the preferred (450 basis points below the highest of yields on

TABLE 9. RETURN ON ASSETS AND RETURN ON BOOK VALUE OF EQUITY, SALLIE MAE AND SELECTED BANK GROUPINGS, 1979-1984 (In percent per year)

	1979	1980	1981	1982	1983	1984	Latest Five-Year Average
Return on Assets							
Sallie Mae	0.52	0.45	0.45	0.62	0.83	1.00	0.67
All U.S. banks with $5-10 billion in assets	0.84	0.82	0.82	0.80	0.74	0.80	0.80
Morgan Guaranty a/	0.71	0.71	0.68	0.69	0.79	0.87	0.74
Texas Commerce	1.00	1.09	1.16	1.15	1.09	0.98	1.07
All U.S. banks with $10 billion or more in assets	0.71	0.68	0.68	0.60	0.67	0.64	0.65
Return on Equity							
Sallie Mae b/	15.8	20.2	30.6	44.8	33.8	27.5	31.4
All U.S. banks with $5-10 billion in assets	13.8	14.3	14.7	13.8	12.1	13.8	13.7
Morgan Guaranty	15.5	16.4	15.5	15.5	14.9	15.8	15.6
Texas Commerce	18.0	19.0	20.8	21.3	18.7	16.8	19.3
All U.S. banks with $10 billion or more in assets	15.1	15.1	15.3	13.8	13.3	12.9	14.1

SOURCES: Sallie Mae and Cates Consulting Analysts, Inc.

a. The Morgan bank holding company is the only such institution rated triple-A by both major debt-rating services. Texas Commerce debt is rated double-A. Student loan revenue bonds backed by a letter of credit from Sallie Mae are rated as though Sallie Mae were a triple-A guarantor.

b. Common equity, excluding preferred.

TABLE 10. EQUITY-TO-ASSET RATIOS FOR SALLIE MAE AND SELECTED BANK GROUPINGS, 1979-1984 (In percent)

	1979	1980	1981	1982	1983	1984
Sallie Mae	3.32	2.17	1.44	1.34	4.33	5.41
(Excluding preferred)	(3.32)	(2.17)	(1.44)	(1.34)	(1.80)	(2.90)
$5-10 billion bank average	6.09	5.75	5.57	5.80	6.10	5.78
Morgan Guaranty	4.57	4.20	4.52	4.63	5.72	5.82
(Excluding preferred)	(4.57)	(4.20)	(4.52)	(4.63)	(5.29)	(5.43)
Texas Commerce	5.56	5.12	4.91	4.79	5.23	5.63
$10 billion bank average	4.69	4.51	4.44	4.34	5.03	4.97

SOURCE: Sallie Mae and Cates Consulting Analysts, Inc.

three Treasury issues) was only 8.14 percent in 1984 (versus Sallie Mae's average cost of money, 10.2 percent), the preferred provided low-cost leverage for the common equity. 1/

From a creditor's point of view, preferred stock adds another layer of protection against loss in the event of default. An "excessive" proportion of equity made up of preferred can, however, be adverse to the interests of creditors (and raise borrowing costs for a fully private firm) because it burdens the firm with preferred dividend expenses and reduces the accumulation of retained earnings. Although an unusual amount of Sallie Mae's equity consists of floating rate preferred, its cost of borrowing does not appear to have been affected by the preferred issue. 2/ As discussed in the

1. Preferred stock can be sold at such low yields because of its tax treatment. For example, 85 percent of dividends received by a U.S. corporation from domestic corporations may be excluded from its taxable income. Preferred stock is often superior to common as a corporate investment because the dividend rate is specified in advance and is not dependent on the paying firm's earnings. In this case, it is dependent on open-market interest rates.

2. Morgan Guaranty's equity position is shown with and without preferred in Table 10. Texas Commerce had no significant amount of preferred outstanding.

next section, agency status usually dominates balance sheet characteristics in the market's credit assessment of the firm.

From the government's point of view, a GSE's preferred stock may differ from agency debt if the preferred does not carry an implicit federal guarantee. If the preferred dividend and preferred equity are available to absorb losses, the preferred issue reduces government's contingent liability. If, in contrast, the preferred dividend payments are also implicitly guaranteed by government, the preferred is equivalent to debt. In the case of GSE preferred, the distinction is not so much a legal one as it is a matter of whether an omitted preferred dividend payment would cause a flight of investors from the GSE's securities.

DIFFERENCES BETWEEN FULLY PRIVATE AND GOVERNMENT-SPONSORED CREDIT RISKS

To be regarded as a triple-A credit risk by the debt rating services and, more important, by creditors, a firm must evince the ability to discharge its present and future obligations under a broad range of circumstances. Short of widespread economic collapse, a triple-A firm is expected, with great confidence, to pay its debts without loss to creditors. This high standard explains why so few fully private firms have been able to achieve and retain this rating, and the low cost of borrowing that accompanies such standing. Currently, only one U.S. bank holding company's debt is rated triple-A.

An enterprise may achieve the status of best credit risk by either internal or external means. The first approach requires that the firm develop sufficient internal financial strength to assure creditors of its safety. This requires, first and foremost, equity capital that is large in relation to its debt. Further, the more risky the assets, the larger must be the equity capital buffer between claims on others (assets) and claims by others (liabilities). Second, the enterprise must be well established with a history of performance under a variety of circumstances. For example, the two high-rated U.S. banks shown in Tables 9 and 10 are more than 100 years old. Third, such a bank must be sufficiently large (the smaller of the two has assets in excess of $20 billion) that it has ready access to the capital markets. Fourth, bank management must be regarded as capable, not only in dealing with current operations but in preparing the institution to operate successfully in the future. Finally, the bank must be soundly profitable.

These requirements are not easily met. Banks at the pinnacle of credit ratings are the tip of a massive, but not readily visible, human endeavor. Not shown are the thousands of banks that failed or were merged into others; those that survived but were ensnared by real estate investment trusts, energy loans, agricultural debt, foreign credits, or any of thousands of financial hazards; newly established banks; and those that have chosen an operating strategy inconsistent with the highest credit ratings.

Those few enterprises that have acquired a high credit rating through their own means and good fortune can be contrasted with another group that have obtained it through a claim on overwhelming external resources. Government-sponsored enterprises are perceived by the financial markets as having such a claim.

The experience of Sallie Mae and other GSEs demonstrates that the implicit guarantee by the federal government of GSE debt can take the place of a strong equity position, decades of performance, and minimum capital market size as a means of qualifying for safe borrower status. The power of this demonstration is not diminished by the fact that some GSEs--including Sallie Mae--now possess some of these characteristics.

Sallie Mae began operations in 1973. After eight years of financing through the U.S. Treasury's Federal Financing Bank, it entered the commercial markets in May 1981 on terms not significantly different from those in the 95th percentile of safe credit risks. At that time, Sallie Mae's capital strength was far less than the 5 percent of assets that is usually regarded as the minimum for a commercial bank. Sallie Mae was less than half the size of the smallest top-tier money market bank. It also lacked a long-term performance record.

Sallie Mae's low funding costs cannot be attributed entirely to its agency status, however. As emphasized in Chapter II, Sallie Mae holds a portfolio of nearly riskless government-guaranteed assets. These guaranteed assets provide an assurance of repayment to creditors that somewhat duplicates the assurance provided by the implicit federal guarantee of its debt. This double coverage of guarantees on both assets and liabilities complicates efforts to disentangle the separate effects of each in reducing the cost of borrowed money to Sallie Mae.

The other GSEs, which hold higher-risk portfolios, demonstrate more vividly the power of agency status. They are usually able to borrow at interest rates below the triple-A rate, even though their asset quality and

liquidation value vary from enterprise to enterprise and are below AAA standards. Table 11 compares the yields paid by four GSEs on fixed-rate debt in March 1985. The rates are remarkably close. The spread on the three-year note from the lowest to the highest rate is only five basis points. For the longer-term notes, the spread increases to 15-19 basis points with a different GSE claiming the lowest rate in each maturity. If these securities had been issued by fully private entities, it would be reasonable to assume that the issuers were fairly homogeneous in their financial strength and debt rating. The slightly higher rates paid in each case by Sallie Mae might suggest that it was regarded as marginally more risky than the others. Alternatively, this rate difference might be explained by "technical factors" such as a smaller volume of debt issued and traded, or the fact that Sallie Mae securities are traded in paper or "definitive" form rather than in electronic or "book entry" form.

In fact, as suggested in Table 12, these securities are issued by vastly different enterprises. The size range among GSEs from $11 billion to $97

TABLE 11. YIELDS ON SOME COMMON-MATURITY, FIXED-RATE DEBT ISSUES OF FOUR GOVERNMENT-SPONSORED ENTERPRISES, MARCH 18, 1985

Maturity Date	Federal National Mortgage Association	Farm Credit Banks	Federal Home Loan Banks	Student Loan Marketing Association
January - March 1988	11.22	11.25	11.25	11.27
March - September 1989	11.81	11.88	11.93	11.96
January - February 1990	11.88	11.84	11.73	11.92
March - April 1993	12.21	12.09	12.15	12.27

SOURCE: *Wall Street Journal*, March 19, 1985.

NOTES: No comparable debt-issue quotes were available for FHLMC.

Recent developments, including increased loan losses at the Farm Credit Banks and a proposal for the Federal Home Loan Banks to finance an FSLIC asset-management company, have increased interagency spreads somewhat. On September 3, 1985, agency spreads over selected Treasury issues were as follows (in basis points): SLMA, 30; FNMA, 31; FHLB, 37; FCB, 48. On September 18, these spreads were: SLMA, 41; FNMA, 42; FHLB, 51; FCB, 85.
Source: Salomon Brothers.

billion is substantial, with Sallie Mae at the small end of the scale. This gives some credence to the possibility that Sallie Mae pays a liquidity or "size of issue" premium on its debt. The variation in book value of equity to book value of assets is considerable. Sallie Mae's ratio of 5.0 percent (including the floating rate preferred) puts it in mid-range between the extremes of Fannie Mae (which recently announced a new stock issue) and the Farm Credit Banks. Reported earnings vary from losses of $57 million to profits in excess of $880 million. Freddie Mac's return on book equity defines the upper end of the profitability range; Sallie Mae is second. Moreover, GSEs vary greatly in exposure to default risk (which is high currently for the Farm Credit banks) and interest risk (high at Fannie Mae). The near-uniformity of GSE borrowing cost contrasts with the varieties of financial condition represented by these institutions. Government's guarantee obscures most of these differences and ordinarily permits each to borrow on similar terms. 3/

Agency or GSE status substantially enhances the debt rating of these enterprises. The subsidy conveyed is the avoided cost of meeting the standards of creditworthiness. In concept, the subsidy has a cost to government equal to the insurance premiums that would be charged by a group of highly-rated insurers to guarantee the timely payment of interest and principal on GSE debt in the absence of government sponsorship. Equivalently--assuming that credit markets are functioning efficiently--the subsidy is equal to the additional interest cost the GSE would be required to pay creditors in the absence of the government's implicit guarantee of its debt. The amount of such a subsidy varies with the degree to which a particular enterprise falls short of the highest standards of creditworthiness and with credit market conditions. This implies that the subsidy to Sallie Mae per dollar of debt declined toward the minimum value of the best, fully private, rate spread over the agency rate, as its size, equity, profitability, and degree of risk approached best credit standards.

A "COSTLESS" SUBSIDY?

The implicit guarantee of GSE debt has never required a cash outlay by the federal government. A subsidy that never leads to a cash payment may appear not be "real"--that is, not costly. Appearances notwithstanding, the

3. Some observers hold that the usually small differences in GSE borrowing costs are due, in part, to differences in the financial strength of individual enterprises and to differences in the taxation of interest on GSE debt. Fannie Mae and Freddie Mac interest payments to investors are subject to state and local tax. Michael J. Moran, "The Federally Sponsored Credit Agencies: An Overview," Federal Reserve *Bulletin* (June 1985), p. 380.

TABLE 12. FINANCIAL CHARACTERISTICS OF GOVERNMENT-SPONSORED ENTERPRISES, END OF 1984

	SLMA	FHLMC	FHLBs	Combined FCBs	FNMA
Size: Book Value of Assets (In billions of dollars)	11.6	13.2	97.0	84.8	88.4
Equity a/ /Assets (In percent)	4.96	4.61	8.97	10.89	1.36
Net Income/Assets (In percent)	0.85	2.03	0.91	0.52	-0.07
Net Income/Equity a/ (In percent)	17.21	44.08	10.14	4.77	-4.75
Interest Coverage b/	1.17	1.27	1.11	1.05	0.99
Asset Credit Risk c/	None	Some	None	Substantial	Some
Interest-Rate Risk d/	Negligible	Negligible	Negligible	Some	Substantial

SOURCES: End-of-year statements and annual reports.

NOTE: Data in this table are based on year-end balance sheet data rather than the quarterly averages used elsewhere in this paper.

a. Including preferred. A substantial portion of FCB equity is provided by borrowers and may be redeemed at par when loans are repaid. Therefore, this equity may not be reliably available to absorb losses.

b. Pretax income plus interest charges divided by interest charges.

c. SLMA holds a guaranteed loan portfolio. Advances made by FHLB to members are overcollateralized by government-guaranteed securities, guaranteed mortgages (discounted to 90 percent of unpaid principal). (If the FHLBs were to be evaluated as fully private entities, however, the extent of their independence from the commitments of the FSLIC would be an important consideration.) Freddie Mac and Fannie Mae hold substantial proportions of conventional mortgages. The Farm Credit Banks' *Report to Investors, 1984* states, "The overall quality of the loan portfolio is subject to deterioration during periods of sharp decline in land values and commodity prices such as currently being experienced."

d. SLMA has hedged its interest-rate risk. Freddie Mac and the Federal Home Loan Banks have a combination of matched maturities and hedges in place. Substantially all loans made by the FCBs have variable interest rates linked to the cost of funds. However, FCBs are subject to loan prepayment risk when market interest rates fall. Fannie Mae's long-term mortgage portfolio is largely fixed-rate, financed with shorter-term, unhedged debt. Adverse interest-rate movements in 1964 resulted in a FNMA portfolio asset yield that was 58 basis points less than the cost of funds.

implicit guarantee of GSE debt is costly in terms of alternatives that must necessarily, if unconsciously, be given up by the economy.

The guarantee provided to a sponsored enterprise is an implied commitment to make debt repayments contingent on the inability of the firm to do so. Such a commitment is of value and has an expected payout unless the contingent event is an impossibility, or, in this case, unless the enterprise would always be able to pay its debts. To assure the ability to repay its debts, an intermediary must avoid risk (and lock in a yield on assets equal to the cost of liabilities).

An intermediary that merely purchases assets in one market (perhaps for repackaging in terms of denomination, maturity, and marketability) and resells in other markets may do so at very little risk. In doing so, the firm is merely transferring ownership of risk and other attributes of the assets among others. To a first approximation, this riskless mode of operation describes, for example, the purchase of mortgages and sale of passthrough securities by the Federal Home Loan Mortgage Corporation, and some of the activities of the Federal National Mortgage Association. Where "repackaging" of assets results in the retention of risk by the intermediary, however, government guarantees of the debts of intermediaries cover contingencies that may materialize.

In the specific case of Sallie Mae, currently held assets consist almost entirely of guaranteed and highly collateralized loans. The guaranteed stream of income from these assets is sufficient in virtually all foreseeable cases to pay debt service costs. Interest-rate risk has been hedged. Government's implicit guarantee of Sallie Mae debt makes the taxpayers liable only if the operating, political, and funding risks to which Sallie Mae is exposed wipe out the equity cushion between the value of its assets and liabilities. Such a result is highly improbable at present. Hence, the current agency status subsidy to Sallie Mae is smaller than (a) its value in the early years of Sallie Mae's existence, (b) its value if Sallie Mae were to adopt a higher-risk operating strategy, and (c) its value at the higher-risk GSEs.

Even if the highly improbable happened and Sallie Mae was unable to meet its debt service commitments from its own resources, this would not necessarily require a cash outlay by the federal government. As long as the federal guarantee was perceived as remaining in place, Sallie Mae would be able to fund its obligations indefinitely by additional capital market borrowing. To assure such a result, the Congress could adopt a resolution of "full faith and credit" backing for the Association's debt. A federal guarantee enables GSEs to meet their cash flow needs without obtaining cash directly from the federal government.

Nonetheless, such a guarantee--whether implicit or explicit--has a real cost even if it never requires a direct cash payment by the federal government, in the same sense that the federal debt has a cost even if it is continually refinanced rather than paid off with tax revenues. Investment funds that are used to refinance the government's or GSE's debt have alternative uses. By allocating those funds to debt service, the economy gives up the additional production this capital would otherwise have provided. The forgone alternative production is the unrecognized cost of the agency status subsidy.

Where GSEs can operate profitably without assuming risks, they enhance the efficiency of capital markets without cost to government. 4/ But when they assume risks, they receive a subsidy from government that has a real cost, even if no cash outlay is required. To argue that government guarantees of GSE debt are costless is to imply that government should guarantee the debt of all financial intermediaries that agree to restrict their lines of business to those of an existing sponsored enterprise.

AN ESTIMATE OF THE GSE SUBSIDY TO SALLIE MAE

To obtain an estimate of the agency status subsidy to Sallie Mae, two phases in firm's development must be distinguished. First, during the early start-up years, Sallie Mae was able to accomplish what would have been nearly impossible for a fully private enterprise: it was able to borrow the money to start a business. With virtually no equity, Sallie Mae obtained a $5 million start-up line of credit from a commercial bank. The value of this "grant" of authority is impossible to calculate, but if the founders were enabled to avoid putting up, say, $1 million in equity to borrow $5 million, the subsidy per dollar of debt was at least 200 basis points. Because the value of the subsidy during this early phase of Sallie Mae's existence is speculative, though large, the focus here will be on the second phase, beginning about 1982, when Sallie Mae entered the financial markets as a profitable and rapidly growing entity.

One way of placing a value on agency status for Sallie Mae is to compare Sallie Mae's cost of funds with the cost of funds to similar, but

4. For an extensive treatment of the role of GSEs in perfecting capital markets, see Barry Bosworth, Andrew Carron, and Elisabeth Rhyne, *Federal Credit Programs* (Washington, D.C.: Brookings Institution, forthcoming).

fully private, borrowers. 5/ As emphasized in Chapter II, it holds a portfolio of assets that is virtually free of default risk. Such a portfolio reduces the risk of lending to Sallie Mae and would lower its interest cost even in the absence of the implicit debt guarantee that accompanies agency status. What is required, then, is a measure of the cost of funds to an established financial intermediary, borrowing with government-guaranteed collateral but without a guarantee of its debt, for a term of 90 days (corresponding to the quarterly interest-rate adjustment period on Sallie Mae's floating-rate debt). A roughly comparable interest-rate series exists for the period since May 1981. Collected by the Bank of America, the bond-equivalent yield on 90-day repurchase agreements collateralized by securities guaranteed by the Government National Mortgage Association approximates the market interest rate that Sallie Mae might be expected to pay for funds, absent agency status. This rate is shown in Table 13 for 1982-1985 under the heading, "fully private cost of funds."

This proxy for the fully private cost of money has averaged 30 basis points above Sallie Mae's actual cost of funds since 1982. This is one indication of the magnitude of the reduction in funds cost owing to agency status rather than to Sallie Mae's low-risk portfolio and general creditworthiness. To convert the estimated agency-status subsidy from basis points per dollar of debt to dollars per year, the basis-point subsidy is multiplied by debt outstanding. (Although $5 billion of Sallie Mae debt is owed to the Federal Financing Bank, the subsidy rate ought to be applied to all outstanding debt because, in the absence of agency status, all Sallie Mae borrowing would presumably be from the private market.) For the 1982-1985 period of data availability, the order of magnitude of the annual value of agency status to Sallie Mae was $40 million (pretax) as shown in Table 13.

This estimate is not to be considered precise, but only illustrative of the magnitude of the federal assistance. All cost-of-money comparisons among firms are difficult, but those involving GSEs are doubly so. Maturities, collateral, the frequency of interest payments, the presence of letters of credit or other security enhancements, are all factors that can vary in subtle but significant ways to invalidate a direct comparison of rates on seemingly comparable instruments. In this case, moreover, the estimate is based on only a few years of data. The important point is that agency

5. An alternative approach, the "option's pricing model," is useful in defining the exact nature of the subsidy but is less useful in specifying its magnitude. The option-based approach is not developed here but see Robert M. Buckley, *Pricing Federal Credit Programs: An Application of the Option's Pricing Perspective to the AID Housing Guarantee Program* (Washington, D.C.: The Urban Institute, 1985).

TABLE 13. CALCULATION OF THE ESTIMATED SUBSIDY VALUE OF SALLIE MAE'S AGENCY STATUS, 1982-1985

	(1) Fully Private Cost of Funds (percent)	(2) Actual Funds Cost (percent)	(3) Funds Subsidy Rate (1-2)	(4) Sallie Mae Debt Outstanding (millions of dollars)	(5) Agency Status Subsidy (3 x 4)
1982	12.42	11.18	1.23	6,083	74.8
1983	9.47	9.28	0.19	7,669	14.6
1984	10.70	10.22	0.48	9,410	45.2
First Nine Months 1985 (Annual rate)	8.35	8.14	0.21	11,697	24.6
1982-1985 Average					39.9

SOURCE: Congressional Budget Office.

status clearly reduces the cost of funding below the market's estimate of the risk-appropriate rate.

In the absence of a government guarantee, capital markets distinguish credit risks. This is reflected in the variation in interest rates required by investors on securities of different risks. The five GSEs constitute a cross-section of credit risks that--without agency status--would probably receive credit ratings ranging from, perhaps, Aaa to no higher than Baa (Baa is the fourth highest grade assigned by Moody's). 6/ This range of credit ratings encompasses differences in the cost of credit usually exceeding 100 basis points on intermediate-term debt for fully private firms. In fact, with the temporary exceptions noted, GSEs borrow at very nearly the same rate, which is below the rate paid by the most creditworthy, fully private borrowers. The GSE subsidy is the reduction in the cost of money resulting from the shift of risk from creditors to taxpayers.

6. By way of comparison, debt issued by Chase Manhattan and Sears is rated Aa; by Wells Fargo and Barnett Banks, A; by Commercial Credit and Chrysler Financial, Baa.

The GSE subsidy helps explain the absence of vigorous price competition in the GSL secondary market. Many individuals and firms are capable of establishing institutions, including so-called non-bank banks, that could mimic Sallie Mae's low-risk, high-profit strategy, but apparently none can obtain start-up, operating, and loan funds on the same terms. Rather than attempting to duplicate Sallie Mae's operations without agency status, commercial banks and state agencies appear to have established student loan units to share in Sallie Mae's advantage by financing holdings of GSLs through Sallie Mae's warehousing advances.

Sallie Mae's agency status exempts it from SEC registration requirements, state investor protection laws, and the costs arising from having debt issues rated as to investment grade. The cost saving to Sallie Mae from these operating advantages is probably less than $1 million per year because of its practice of voluntarily complying with most of these requirements.

CHAPTER IV

OPTIONS FOR CHANGE

Even though no explicit guarantee contract exists, the financial world acts--most of the time--as if the debt of the sponsored enterprises is guaranteed by the federal government. This is evidenced by the usual willingness of investors to lend to GSEs at interest rates only slightly above the Treasury's risk-free cost of money, independently of the enterprises' financial condition and operating policies.

These implicit federal guarantees of GSE debt have several important shortcomings from the standpoint of public policy. First, implicit guarantees create unnecessary and inefficient uncertainty (in contrast to explicit guarantees). Second, the cost of the guarantees, and their effects on other policy goals, are obscured by the current arrangements. And third, the lack of any effective limit to government's risk exposure in the GSEs undermines efforts at federal budgeting.

This chapter discusses these failings, which appear to be inherent in the current GSE structure, and considers some alternatives.

ADVANTAGES OF AN EXPLICIT GUARANTEE

The federal government's implicit guarantee of GSE debt has been acknowledged in the financial markets by the absence of appropriate risk premiums. Several advantages would accrue to the GSEs, to investors, and to government from making the guarantee explicit.

The Elimination of Uncertainty

An explicit guarantee would eliminate the uncertainty that sometimes arises concerning the strength of the federal commitment to GSE debt. The 1979-1981 rise in interest rates sharply reduced the market value of Fannie Mae's fixed-rate, long-term, unhedged mortgage portfolio. As its financial condition deteriorated, the cost of funds to Fannie Mae rose relative to that of other GSEs, the Treasury, and fully private borrowers. Subsequently, confidence in the government's guarantee strengthened and interest rates on

Fannie Mae's debt moved back to parity with those of the other GSEs, even though it received no additional government assistance and its portfolio remains several billion dollars "underwater." 1/ A risk premium is notably absent from the yields on Fannie Mae debt in Table 11, for example.

The effects of uncertainty were also evident when interest rates on Farm Credit obligations rose in August-September 1985 following reports of heavy loan losses at the Farm Credit Banks, and surged further after a public appeal from the head of the Farm Credit Administration for "multi-billions" of federal aid. By mid-September, the spread between yields on Farm Credit obligations and Treasury debt had risen from 20-25 basis points to nearly 100 basis points. Gradually, as some investors shifted from other agency securities to FCS debt, spreads on other GSE securities increased to about 35 basis points over Treasury securities (two-year maturities). Given time and a restoration of confidence in the implicit federal guarantee, the rates on FCS and other GSE debt can be expected to return to the customary agency spread over Treasury debt. But in this as in the earlier case, sponsored enterprises were required to pay higher rates to compensate investors for an uncertainty that the Congress could dispel.

If the government in fact stands behind the GSEs, there would be no cost in making this commitment explicit. In doing so, the government would protect the sponsored enterprises from having to pay an "uncertainty" interest premium. By increasing the net income of a troubled GSE in this manner, the government would reduce the expected cost of its own contingent liability.

The Recognition of Costs and Consequences

Changing the implicit guarantee into an explicit one might help to bring recognition of the real costs of current policy and the consequences of these guarantees for other public policy goals. Developing such an appreciation would not be easy, however; it is also made difficult by the off-budget status of the sponsored enterprises and by the cash basis of the budget.

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1. U.S. General Accounting Office, *The Federal National Mortgage Association in a Changing Economic Environment*, GAO/RCED-85-102-A (July 17, 1985), pp. 145-189.

Budgeting for Contingent Claims. The outlays and receipts of Sallie Mae and the other government-sponsored enterprises are not included in the unified federal budget. Rather, their accounts are reported as an information item in the last part of the budget *Appendix*. As long as Sallie Mae remains privately owned, a compelling case can be made for excluding it and other GSEs from the unified budget. 2/ An equally strong case exists, however, for including in the budget all subsidies provided to private entities.

Neither implicit nor explicit guarantees have a "cost" in the cash-based federal budget, which includes outlays recorded only when cash is disbursed and receipts recorded when funds are received. This accounting approach is useful for determining the government's cash-flow financing needs, but it does not capture the cost of noncash benefits provided--such as the reduced cost of money conveyed by the government's assumption of contingent liabilities--until those commitments are honored with cash payments. 3/

The dollar volume of explicit guarantees is shown, however, in the accounts of the guaranteeing agency in the budget *Appendix* and is included in the Budget Resolutions. Subsidy cost estimates for explicit guarantees are also provided in the *Special Analyses* of the budget prepared by the Office of Management and Budget. Making implicit guarantees explicit, therefore, would increase their budgetary visibility. 4/

Raising the budgetary prominence of contingent liabilities created by GSE operations would contribute to the recognition that government is providing something of value to selected firms. This recognition might in turn foster an awareness of the adverse consequences the implicit guarantees have on competition in secondary markets and of the need to allocate them consciously among alternative uses.

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2. Private ownership is generally considered a decisive basis for exclusion. See, for example, Executive Office of the President, *Report* of the President's Commission on Budget Concepts (October 1967), pp. 29-30.

3. See Congressional Budget Office, *New Approaches to the Budgetary Treatment of Federal Credit Assistance* (March 1984). This report also discusses the possibility of a cash-based budget that would include the subsidy cost of commitments to make future payments. This could be achieved either by setting aside in the current year the amount required to make future payments arising from current commitments or by paying this amount to a privately owned enterprise for assuming these commitments.

4. For current treatment of explicit guarantees see: First Concurrent Resolution on the Budget for Fiscal Year 1986; Budget of the United States Government, *Special Analysis F*; and Budget of the United States Government, *Appendix*, I-I12 through I-I15.

Implicit Guarantees and Uncontrolled Risk. The use of implicit, rather than explicit, guarantees appears to have so diffused responsibility that the riskiness of individual GSEs has been left largely to the discretion of their managements. Debt holders have had few incentives to concern themselves with operating risks, and government oversight may have been weakened by the absence of formal guarantee agreements. GSE management, more or less guided by its own and the stockholders' interests, has been free to choose from a range of risks consistent with the enterprise's charter. Management's decisions toward risk have varied widely among the GSEs. Some have actively avoided risk, notably Sallie Mae and Freddie Mac (see Table 12). Others have assumed it, perhaps without consciously seeking to do so.

Whatever the reasons for these disparate risk-taking policies by the GSEs, the federal government as residual guarantor has a clear interest in controlling the risk they assume. A variety of means are available to the Congress for this purpose.

ALTERNATIVES FOR CONTROLLING FEDERAL RISK EXPOSURE

Four approaches to controlling risks assumed by the GSEs are considered here: government ownership and control of the enterprises; increased regulation; conversion of GSEs to fully private status; and substitution of risk-adjusted debt insurance for government guarantees.

Increased Control Through Federal Ownership

Perhaps the most direct means of limiting risk-taking by the GSEs would be for the government to purchase them and impose an appropriate risk policy. This approach would have a number of disadvantages, however.

The authority to control an agency does not always assure effective control with respect to risk. A number of federal credit programs, including the Guaranteed Student Loan program for example, are operated in a "high-risk" manner. Moreover, identifying an "appropriate" level of risk is difficult without resort to market measures of risk, such as privately purchased insurance and other risk-bearing services. Government operation would probably result in the loss of some operating efficiencies that have been achieved under private ownership. And the presence of a wholly-owned government agency in these markets would probably further dampen competition in secondary markets.

Highly profitable enterprises such as Sallie Mae would also be very costly to acquire. The market value of its common stock outstanding has ranged from about $1 billion to $1.7 billion over the past year. To the extent that this price represents the capitalized present value of expected future income, it includes the value derived from all subsidies. In paying the fair market price for the firm, the government would be paying for retained past and anticipated future subsidies in a lump sum.

Another argument against government ownership of these enterprises is the current budget system's inadequacy in accounting for credit. If Sallie Mae were government-owned, net lending, including outlays for GSLs and warehousing advances, would be included in budget outlays. In 1984, this would have increased federal outlays and the deficit by $2 billion. This overstatement of costs shows the inadequacy of current cash-based credit accounting practices. Until major accounting changes can be effected, bringing GSEs on-budget would substantially diminish the usefulness of the budget.

A somewhat stronger case for government ownership of the sponsored enterprises might be developed from the view that inasmuch as the government is bearing the risk of default on GSE debt, the cost of funds to the GSEs ought not to exceed the minimum transaction cost, risk-free rate, which could be achieved by direct Treasury funding of GSE secondary market operations. This argument for a Treasury buy-out of the GSEs is nonetheless subject to the same objections that can be raised against government ownership as a risk control measure.

Regulation

Another means of controlling the government's GSE risk would be regulation. If the sources of risk can be identified and prohibitions on risk-taking issued and enforced, this would be a superior alternative to existing practice. In fact, however, two of the highest-risk enterprises are already subject to regulation by federal agencies. The Department of Housing and Urban Development regulates Fannie Mae, and the Farm Credit Administration regulates the Farm Credit Banks. The interest rate and credit risks to which Fannie Mae and the Farm Credit System are subject must have seemed acceptable when they were assumed, especially in the light of enterprise objectives.

Effective risk regulation would have substantially different consequences for the high- and low-risk enterprises. The adoption of operating rules designed to lock current policies permanently into place would not affect the current practice of low-risk firms such as Sallie Mae

but would restrict their development of new financial services and products. Some of the innovative behavior heretofore demonstrated by the GSEs might be lost in a regulated environment. But innovation could be left to fully private entities, which do not create contingent liabilities for the government. The desirability of attempting to regulate entities that are currently low-risk but innovative probably hinges, then, on the likelihood that they will depart from their past strategies if left alone, and on the confidence with which fully private firms can be expected to fill the role of product and market innovators.

For high-risk enterprises, regulation would fundamentally alter existing operating strategies. For those GSEs with accumulated losses, regulation intended to sharply reduce risk would also reduce their opportunities to "get lucky" and recover their losses. (Such regulations would also reduce the amount of potential further loss.) GSEs in this position are apt to view new risk-limiting regulations as especially untimely.

Full Privatization of the Sponsored Enterprises

Another approach to controlling the risk assumed by GSEs would be to terminate their special relationship with government and permit them to move to fully private status. In the case of Sallie Mae this would require several steps: replacement of the $5 billion in debt to the FFB with private debt; withdrawal of the $1 billion Treasury backup line of credit; election of all directors by shareholders; cancellation of SLMA securities' eligibility to be treated as equivalent to Treasury debt, including the revocation of exemption from state and local income taxes; and repeal of the charter statute. The President's budget *Appendix* would drop all references to Sallie Mae.

The advantages of privatizing Sallie Mae would include the elimination of a relatively small but unrecognized subsidy and the end of private leveraging of the federal guarantee. New risks assumed by the firm would be borne by private investors. In addition, no entity in the GSL secondary market would have the advantage of agency status. As a result, competition should increase.

Disadvantages of full privatization would include the possibility of a higher cost of funds to GSL lenders and the possibility that a fully private Sallie Mae might neglect the GSL market. If these possibilities materialized, they could be overcome by the direct payment of subsidies (sufficient to maintain the net cost of funds at the desired level) to lenders and firms willing to "make a market" in GSLs.

Privatization might bring losses to current holders of GSE debt, who acquired it at a price reflecting the market's valuation of the government's implicit guarantee. Equity considerations, therefore, suggest that the guarantee be withheld only from securities issued at some future date. Of course, this would provide a windfall to those who bought these securities when the implicit guarantee was doubted and discounted. Moreover, the government's denial of future liability on new issues might not be believed, especially in view of the size and financial importance of the GSEs.

Risk-Adjusted Debt Insurance

Another approach to reducing government's GSE risk exposure would be to convert the debt guarantee to a self-financed insurance program with risk-adjusted premiums. In concept, premium income from the sponsored enterprises should be designed so as to cover long-term losses without being so high as to discourage low-risk, high expected-value innovation by the GSEs. In practice, devising such a premium structure would be very difficult. If established, the insurance could be offered to any firm restricting its operations to the designated activity.

Debt insurance might also be offered on a subsidized basis, if desired--that is, the actuarial fees would be paid in part by the government. If the subsidy was monetized by federal payments into an off-budget insurance fund, it would be fully captured in the federal budget.

In its 1986 budget documents, the Administration proposed what seemed to be a GSE insurance plan but described it as a "user fee" on agency debt. Specifically, a levy of 5 basis points was to be assessed on each new issue of GSE debt, increasing to 8.3 basis points after one year. The 8.3 basis-point figure is--not coincidentally--the rate ordinarily charged federally insured depository institutions (before rebates based on loss experience).

A flat rather than a risk-adjusted insurance premium would share some of the disadvantages of the current system. It would not go very far toward increasing the sensitivity of GSE management to the costs of its risk-taking. In particular, less risky enterprises would be called upon to pay part of the costs incurred by high-risk firms. A similar shortcoming has troubled the flat-rate federal deposit insurance programs in recent years. This deficiency is currently being addressed by efforts at increasing the equity capital requirements of insured depository institutions; increasing the losses of

shareholders in insured, failed institutions; monitoring and prohibiting risky activities; and developing additional methods for measuring risk and calculating risk-adjusted premiums.

In sum, the government has a substantial interest in limiting its risk exposure in the sponsored enterprises. Several options exist. Regulation and federal ownership would be among the most direct methods, but they would have substantial drawbacks in diminished enterprise initiative and, in the case of federal ownership, a high purchase price. Full privatization--if successful--would limit risk-taking by shifting it to investors. But the government might still not be able to disavow residual guarantee responsibility for firms as large as some of the GSEs. A fourth alternative would be to cover the guarantee with risk-adjusted insurance premiums.

Quite possibly, no single approach would suffice for all GSEs. Government purchase and ownership might be appropriate in some instances, full privatization in others, and a mixture of regulation and insurance in others. For Sallie Mae, the high cost of purchase seems unwarranted, particularly since Sallie Mae exposes the federal government to little risk. A combination of short-term regulatory restraints coupled with long-term privatization and debt insurance might be appropriate in this case.

APPENDIX A

A DESCRIPTION OF FEDERALLY GUARANTEED LOAN PROGRAMS FOR STUDENTS

Under current law, eligible financial and educational institutions may lend to qualified students free of default risk and earn an interest rate of 350 basis points above the 90-day Treasury bill rate (bond equivalent). Institutional eligibility is established by a state or private nonprofit guarantor agency, which reinsures the loans with the U.S. Department of Education. To qualify, a student must be accepted or enrolled at least half time in an eligible institution of higher education or a vocational school. Students whose family adjusted gross income exceeds $30,000 per year may borrow only the difference between the cost of attendance and the estimated expected family contribution and other aid or the dollar limit, whichever is less. Students whose family income is less than $30,000 may borrow the difference between their education costs and their other aid up to the annual maxima. For all undergraduates, borrowing is limited to $2,500 per year and $12,500 over five years. Graduate students may borrow up to $5,000 per year subject to an undergraduate/graduate limit of $25,000.

The current interest rate on new GSL contracts is 8 percent (though some borrowers with outstanding balances originated earlier are paying 7 or 9 percent on new borrowing). While the borrower is in school or in possession of a deferment, the federal government pays (quarterly) the loan interest plus the "special allowance" required to bring the rate up to the guaranteed 3.5 percent above the bond-equivalent rate of the 91-day T-bill. (Tax-exempt issuers receive only one-half of the special allowance, subject to a floor rate of 9.5 percent.) After the student leaves school or deferred status and the grace period of up to one year (six months on newer loans) expires, the borrower becomes responsible for payments of interest and principal. Repayment of principal by the borrower can be scheduled for up to 10 years. No penalty is levied for prepayment. In case of default, the lender must apply to the insuring agency for recovery of unpaid interest and principal. After paying the claim, the guarantor seeks reimbursement from the U.S. government but must also continue to pursue collection from the borrower.

In addition to GSLs, guaranteed loans are also provided to parents of dependent students, independent undergraduate students, and graduate students under the Auxiliary Loan Program. The contract interest rate on

these loans is currently set at 12 percent, rather than 8 percent as on GSLs. Auxiliary loans qualify for "special allowance" payments to raise the interest yield to 350 basis points above the T-bill rate, if such payments are necessary to provide such a yield. Another major difference between the GSL and Auxiliary programs is that there is no in-school interest subsidy on the Auxiliary loans. The federal government's liability, therefore, is restricted to special allowance payments (when necessitated by T-bill rates above 8.50 percent) and default. In 1983, new guarantees under the Auxiliary Loan Program totaled $258 million.

Federally insured loans are also available to health professions graduate students at both fixed and variable interest rates (the HEAL program). Fixed-rate loans have a contract rate of 350 basis points above the three-month Treasury bill rate at the time the loan is made. Variable-rate loans are adjusted quarterly to 350 basis points over the T-bill rate of the previous quarter. Principal and interest payments may be deferred until the student has completed school and residency requirements. HEAL borrowing limits are $20,000 per year and $80,000 in aggregate. These loans may be repaid over 25 years. The federal government's liability is limited to bearing the risk of default.

APPENDIX B

SELECTED FINANCIAL DATA FOR SALLIE MAE, 1979-1984

APPENDIX B. SELECTED FINANCIAL DATA FOR SALLIE MAE, 1979-1984

	1984	1983	1982	1981	1980	1979
Average Balance Sheets (In millions of dollars)						
Assets						
Student loans, net	5,110.3	3,942.9	2,651.4	1,602.6	975.7	555.8
Warehousing advances	3,738.4	3,060.4	2,887.0	2,177.0	1,072.6	566.6
Investments	1,035.6	974.7	581.3	207.6	65.7	63.4
Total assets	10,369.4	8,280.6	6,272.3	4,090.0	2,163.6	1,209.1
Liabilities and Stockholders' Equity						
Short-term debt	1,394.3	484.9	606.5	263.7	1,861.2	1,147.1
Long-term debt	8,079.1	7,184.2	5,476.2	3,725.2	244.0	8.8
Stockholders' equity	539.6	358.6	84.2	58.9	46.7	40.2
Total liabilities and equity	10,369.4	8,280.6	6,272.3	4,090.0	2,163.6	1,209.1
Statements of Income (In millions of dollars, except per share data)						
Total interest income	1,155.7	857.7	770.0	640.2		
Interest expense	961.8	711.3	679.9	590.0		
Net interest income	193.9	146.3	90.1	50.2		
Other operating income	4.1	2.8	1.7	1.0		
Total operating expenses	31.6	28.4	23.1	18.1		
Income before federal income taxes	166.5	120.8	68.7	33.0		
Total federal income taxes	67.2	54.2	31.0	14.9		
Net income	99.3	66.6	37.8	18.1		
Earnings per common share	1.91	1.37	1.08	.52		

SOURCE: Student Loan Marketing Association.

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